National Cancer Institute

A Snapshot of Esophageal Cancer

Incidence and Mortality

Esophageal cancer consists of two primary types, adenocarcinoma and squamous cell carcinoma. Adenocarcinoma of the esophagus is more common in the United States. Men of all racial and ethnic groups have higher esophageal cancer incidence and mortality rates than women. Historically, African-American men have had higher esophageal cancer incidence and mortality rates than white men; however, increasing rates in white men and a steady decline among African-American men in the past decade have reversed this trend. A downward trend in mortality has not been observed for any other racial/ethnic group.

Risk factors for esophageal cancer include tobacco use, alcohol use, Barrett esophagus, gastric reflux, and increasing age. Common signs of esophageal cancer include painful or difficult swallowing and weight loss. There are no standard or routine screening tests for esophageal cancer. Tests and procedures used to detect and diagnose esophageal cancer include a physical exam, chest x-ray, and a barium swallow test. Standard treatment options for esophageal cancer include surgery, radiation therapy, chemotherapy, laser therapy, electrocoagulation, or targeted therapy.

It is estimated that approximately $1.3 billion[1] is spent in the United States each year on esophageal cancer treatment.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the SEER Web site.

1 Cancer Trends Progress Report, in 2010 dollars.

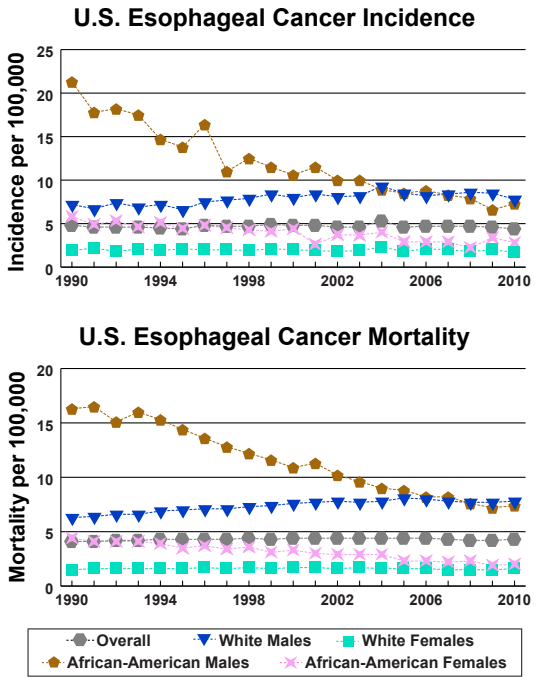
Trends in NCI Funding for Esophageal Cancer Research

The National Cancer Institute's (NCI) investment[2] in esophageal cancer research increased from $22.4 million in fiscal year (FY) 2008 to $33.0 million in FY 2011 before decreasing to $28.0 million in FY 2012. In addition to this funding, NCI supported $6.0 million in esophageal cancer research in FY 2009 and FY 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance.

2 The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see About NIH.

3 For more information regarding ARRA funding at NCI, see Recovery Act Funding at NCI.



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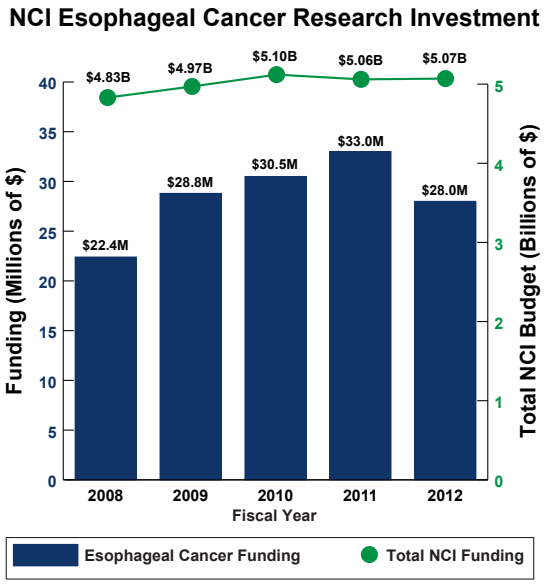


Source: NCI Office of Budget and Finance.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

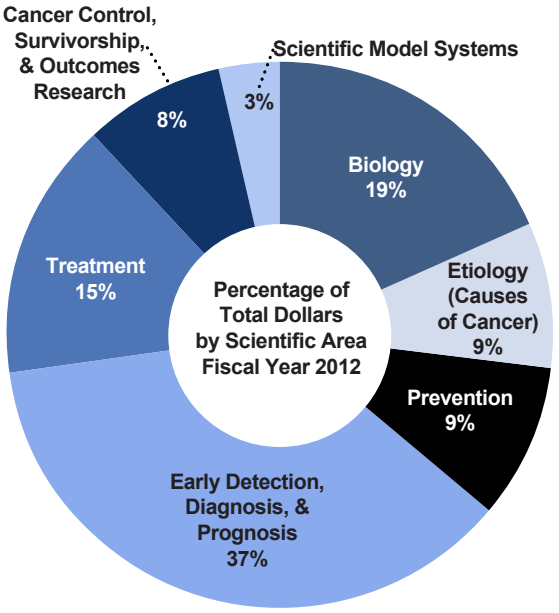
Examples of NCI Activities Relevant to Esophageal Cancer

- **Barrett's Esophagus Translational Research Network (BETRNet)** is a consortium of three primary centers conducting translational research to study the origins and pathogenesis of Barrett esophagus and esophageal adenocarcinoma with the ultimate goal of improving patient outcomes and decreasing the burden of the disease.
- The **Chemopreventive Agent Development Research Group** provides scientific and administrative oversight for chemoprevention agent development from preclinical research to early phase I clinical trials. The program supports research on several agents for potential chemoprevention of esophageal cancer.
- The **Epidemiology of Esophageal Cancer Consortia**, which include the Asian Barrett's Consortium and the International Barrett's and Esophageal Adenocarcinoma Consortium (BEACON), were formed to enhance international collaborations in research into the etiology and prevention of Barrett esophagus and esophageal adenocarcinoma.
- Several early-phase clinical trials of molecularly targeted cancer regimens are being conducted through NCI's **Accelerating Clinical Trials of Novel Oncologic PathWays (ACTNOW)** program, including a phase II trial in patients with advanced gastric and gastroesophageal junction carcinoma.
- The **Phase III Randomized Study of Radiotherapy, Paclitaxel, and Carboplatin with versus without Trastuzumab in Patients with HER2-Overexpressing Esophageal Adenocarcinoma** is investigating whether adding targeted therapy to chemotherapy and radiation will reduce disease recurrence and extend survival in people with HER2-positive esophageal cancer.
- The **Esophagus Cancer Modeling** project, conducted by the Cancer Intervention and Surveillance Modeling Network (CISNET), is exploring the incidence and mortality of esophageal adenocarcinoma, hypothetical screening strategies, chemoprevention, and endoscopic therapy.
- Eight gastrointestinal-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** focus on translational research on cancers of the gastrointestinal system, including esophageal cancer.

Additional Resources for Esophageal Cancer

- The **What You Need To Know About™ Cancer of the Esophagus** booklet contains information on diagnosis and staging, treatment, supportive care and nutrition, and taking part in research studies. Information specialists also can answer questions about cancer at 1-800-4-CANCER.
- The NCI **Esophageal Cancer Home Page** provides up-to-date information on esophageal cancer treatment, prevention, genetics, causes, screening, testing, and other topics.
- Information on treatment options for esophageal cancer is available from **PDQ**, NCI's comprehensive cancer database.
- **Clinical trials for esophageal cancer** can be found in NCI's list of clinical trials.

NCI Esophageal Cancer Research Portfolio



Source: NCI Funded Research Portfolio. Only projects with assigned common scientific outline area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site.

Selected Advances in Esophageal Cancer Research

- In a prospective cohort study of people diagnosed with Barrett esophagus, increasing age and smoking history were associated with risk of progression to esophageal adenocarcinoma, whereas there were no associations with alcohol use or body mass index. Published January 2013. [**PubMed Abstract**]
- Gene expression profiles in esophageal adenocarcinoma revealed a gene signature that was strongly associated with overall survival after resection. Published February 2013. [**PubMed Abstract**]
- Potential biomarkers for the progression of precancerous Barrett esophagus to esophageal adenocarcinoma have been identified. Published March 2013. [**PubMed Abstract**]
- At one institution, esophageal cancer patients who were treated with chemoradiotherapy and who were obese did not have poorer disease outcomes or worse postoperative morbidity than those who were not obese. Published April 2013. [**PubMed Abstract**]
- Click here to access selected free full-text journal articles on advances in NCI-supported research relevant to esophageal cancer. Click here to search for additional scientific articles or to complete a search tutorial on PubMed.